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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,078	08/02/2001	Chien Fang	112025-0456	9689
24267	7590	09/20/2005		
CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210			EXAMINER PARK, JUNG H	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/921,078	Applicant(s) FANG ET AL.	
	Examiner Jung Park	Art Unit 2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1- is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Abstract Objections

1. The abstract of the disclosure is objected to because applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited.

The abstract is too long.

Appropriate correction is required. See MPEP § 608.01(b).

Specification

2. The disclosure is objected to because of the following informalities:

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

More descriptive title is required.

Appropriate correction is required.

Claim Objections

3. Claims 8, 10-12 and 19-20 are objected to because of the following informalities:

In claim 8, the number "8" should be changed to --7--.

In claims 10-12, the number "1" should be changed to --9--.

In claim 19-20, the number "13" should be changed to --16--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3 and 5-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyon et al. (U.S. 6,333,917, hereinafter "Lyon") in view of Bonomi et al. (U.S. 6,069,872, hereinafter "Bonomi").

Regarding claims 1, 7, 9, 13 and 16, Lyon discloses the switches of claims 1, 7 and 9 and the methods of claims 13 and 16. Lyon discloses, "a switching fabric (Figure 4, element 46) receiving a cell at an input port (Figure 4, element 52), the switching fabric selecting a route there-through for the cell to an output port (Figure 4 *where an output port is located in between element 46 and 48 for output of switching fabric*)."

Although Lyon teaches the route path from one input port to one output port, Lyon does not explicitly teach what Bonomi discloses, "the switching fabric selecting a route there-through for the cell to an output port (Bonomi, Figure 2, elements 86 and 88; *where the switch fabric determines the appropriate route path for incoming cells as described in col. 5, lines 49-51*)..."

It would have been obvious to one of ordinary skill in the art at the time of invention was made to add input and output ports for the purpose of having the plurality of input/output modules. A motivation of having the plurality of input modules is to convert the incoming data packets and break them down into individual ATM cells in order to process a variety of incoming ATM cells from the input modules to input ports.

Lyon discloses, "at least one queue (Lyon, Figure 1, element *queue*) within the switching fabric, the queue having an associated threshold (Figure 1, element 14 *where max_{th} and min_{th}*), the switching fabric determining the number of cells present in the queue (Figure 1, element "instantaneous occupancy" *where the average number of cells based in the instantaneous is determined as described col. 1, lines 57-58*) the switching fabric determining if the next arriving cell (col. 1, line 59) for the at least one queue fills the queue above the threshold (col. 2, lines 1-2), and in the event that the at least one queue is filled above the threshold, then writing a flag bit within the cell to a set state (col. 1, lines 61-62; col. 2, line 2 *where mark the incoming packet*);

Lyon discloses, "means for computing a ratio of cells having the flag bit set to a total number of cells received at an output port (Figure 4, element 62; Figure 5; col. 8, lines 61-66 *where RED+ engine determines a ratio of tagging cells*) and in response to a value of the ratio either discarding the cell or forwarding the cell (col. 8, line 66 *dropping or tagging cells for forwarding*) into an output link of the computer network, the discarding step selecting a cell to be discarded on a random basis (Figure 4, element 62 *where RED engine uses the random early detection algorithm for discarding/tagging cells*)."

Regarding claims 3, 8, 10, 11, 14 and 17, Lyon discloses, "the flag bit further comprises: an EFCI bit of the ATM cell (Lyon, col. 5, lines 65-67 *where an EFCI bit of the ATM cell, which has a fixed length*).

Regarding claims 5 and 12, Lyon lacks what Bonomi discloses, "an IP linecard, the IP linecard receiving TCP/IP computer packets from a computer network and forwarding ATM cells to the switching fabric (Bonomi, col. 5, lines 41-43)."

It would have been obvious to one of ordinary skill in the art at the time of invention was made to add the IP linecard for the purpose of processing Ethernet packets. A motivation of processing Ethernet packet is to convert the incoming IP data packets and break them down into individual ATM cells in order to process Ethernet packets since TCP/IP protocol is widely used communication protocol between computers today, used as a standard for transmitting data over networks and as the basis for standard Internet protocols.

Regarding claim 6, Lyon lacks what Bonomi discloses, "an IP linecard, the IP linecard receiving ATM cells from the switching fabric and forwarding TCP/IP computer packets onto a computer network (Bonomi, Figure 2, element 84; col. 5, lines 66-67 *where ATM cells are transmitted out through an IP module connected to TCP/IP network*)." Therefore, it is rejected for the similar reasons and motivation set forth in the rejection of claim 5.

Regarding claims 15 and 18, they are claims corresponding to claim 1 and are therefore rejected for the similar reason set forth for the RED algorithm in the rejection of claim 1.

Regarding claims 19 and 20, Lyon in view of Bonomi disclose all the claim limitations as stated above, except for a computer readable device and electromagnetic signal containing instructions.

However, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to use software-based machines. The benefit using computer-readable device is that program can be changed and upgraded and new features are added easily than hardware changes.

6. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyon in view of Bonomi and further in view of The Admitted Prior Art (hereinafter "APA").

Regarding claims 2 and 4, Lyon in view of Bonomi teach that the traffic manager, "RED engine", is included in the switch fabric. However, Lyon and Bonomi lack what APA discloses, "an ASIC chip having the traffic manager implemented therein (APA, pg. 1, lines 24-25 *where the switch fabric is implemented in a few ASIC chips*)."

It would have been obvious that it was well known in the art that the switch fabric is implemented in the computer chips such as ASIC. A motivation of using ASIC chips is to improve performance over general-purpose CPUs, because ASICs are "hardwired" to do a specific job and do not incur the overhead of fetching and interpreting stored instructions.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jung Park whose telephone number is 571-272-8565. The examiner can normally be reached on Mon-Fri during 7:10-4:40.

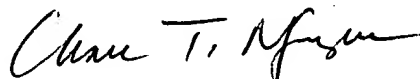
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JP

Jung Park
Patent Examiner
Art Unit 2661
September 19, 2005



CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
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